

Remarks

Claims 1-17 are pending and claims 1, 4, 5, 8, 11, 14, and 17 are amended herein.
Reconsideration is respectfully requested.

Rejections under 35 U.S.C. § 103(a)

Claims 1-17 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Badische Anilin- & Soda-Fabrik AG, GB 1,167,793 (the '793 patent). Applicants traverse.

Amended claim 1 recites a process comprising separating and recovering 3-hydroxypropionic acid from an aqueous solution comprising 3-hydroxypropionic acid and acrylic acid, by contacting the aqueous solution with an organic phase comprising an organic extractant that is not ethyl acetate or a lactam having 4 to 7 ring members and a hydrocarbon radical as a substituent on the nitrogen atom.

The '793 patent only teaches use of a radical lactam for separating acrylic acid from acetic acid and propionic acid. The Examiner states that the '793 patent also teaches use of aliphatics, cycloaliphatics or aromatic hydrocarbons, halohydrocarbons, ethers or esters, as solvents (Office Action page 3, citing the '793 patent, col. 2, lines 95-102). This is not quite accurate because the '793 patent recites that these solvents may be used *if mixed with at least 50% by weight of a radical lactam solvent*. ('793 patent, col. 2, lines 95-103.) Because the '793 patent requires a radical lactam be used as a solvent for the separation of acrylic acid, the '793 patent does not teach or suggest the process of amended claim 1.

Claims 2-13 are allowable over the art of record for the same reasons as discussed above in relation to claim 1 as well as based on each claim's unique and non-obvious combination of features. For example, claims 2 and 3 require the organic extractant be selected from a group consisting of certain organic compounds not taught or suggested in the '793 patent. As stated, all of the claims of the present invention as amended recite that the organic extractant does not comprise a radical lactam and the '793 patent requires that the solvent used for extraction of acrylic acid comprise, at least 50% by weight, a radical lactam. ('793 patent, col. 2, lines 95-103.)

Amended claims 14 and 17 are allowable for the same reasons as discussed above in relation to claim 1. In addition, amended claims 14 and 17 recite, in part, the separation and recovery process wherein the separation process of acrylic acid and 3-hydroxypropionic acid has

a separation factor of equal to or greater than 5. The '793 patent does not teach or suggest a separation of acrylic acid and propionic acid that could achieve such a separation factor. This is in part due to the fact that the propionic acid is simply removed along with acetic acid and other impurities and is in part due to the inferiority of the lactam solvent as compared to the recited processes.

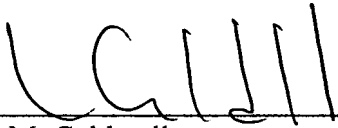
Claim 15 is allowable over the art of record for the same reasons as discussed above in relation to claim 1 and claim 14 as well as claims 2-13. Claim 16 is allowable over the art of record for the same reasons as discussed above in relation to claim 14 as well as based on the unique and non-obvious combination of features in claim 14.

Accordingly, claims 1-17 are patentable over the art of record. The Examiner is invited to contact the undersigned attorney at the telephone number listed below if such a call would facilitate allowance of this application. Please note that this application is being prosecuted by Applicants' new counsel. A Revocation of Prior Powers/Power of Attorney document shall be submitted shortly.

Respectfully submitted,

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